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ENVIRONMENT DEPARTMENT

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GROUND WATER QUALITY BUREAU (GWQB)
DISCHARGE PERMIT RENEWAL and MODIFICATION
EXISTING COPPER MINE FACILITY
Issued under 20.6.2 and 20.6.7 NMAC

Certified Mail Receipt Number:
Return Receipt Requested

Mine Facility Name:	Tyrone Mine
GWQB Discharge Permit No.:	DP-1341
GWQB TEMPO AI No.:	571
Permittee Name/Responsible Party:	Freeport-McMoRan Tyrone Inc.
Mailing Address:	P.O. Drawer 571 Tyrone, NM 888065
Mine Facility Contact:	Lee Nix: (575) 912-5777
Mine Facility Location:	Highway 90 South Tyrone Mine Road Tyrone, NM 88065
County:	Grant County
Permitting Action:	Renewal and Modification
Renewal Effective Date:	DATE
Renewal Expiration Date:	DATE
NMED Permit Contact:	Keith Ehlert, (505) 660-9290
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Rebecca Roose, Director
Water Protection Division

Date

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Part A GENERAL INFORMATION

A100 Introduction

A. The New Mexico Environment Department (NMED) issues this renewal and modification of the Supplemental Groundwater Discharge Permit for Closure, DP-1341 (Discharge Permit or DP-1341) to Freeport-McMoRan Tyrone Inc. (permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978, §§ 74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Regulations, 20.6.2 and 20.6.7 NMAC. NMED is issuing this Supplemental Discharge Permit to control the discharge of water contaminants from the Tyrone Mine Facility (Tyrone Mine) following cessation of operations for the protection of groundwater and those segments of surface water gaining from groundwater inflow, for present and potential future use as domestic and agricultural water supply and other uses, and to protect public health.

B. Pursuant to this Discharge Permit, the permittee is authorized to implement the closure/closeout plan to facilitate closure measures for the Tyrone Mine. The permittee submitted an updated Closure/Closeout Plan titled "2013 Tyrone Mine Closure/Closeout Plan Update" dated July 30, 2019 (Updated CCP). The Updated CCP shall be implemented and is enforceable under the terms of this Discharge Permit.

C. Approval of this Discharge Permit does not relieve the permittee of its responsibility to comply with all conditions and requirements of Tyrone Mine operational discharge permits, WQA, WQCC Regulations, and any other applicable federal, state, and local laws and regulations.

D. Leachate from the leach stockpiles, waste rock stockpiles, tailing storage facilities (also called tailing impoundments or Tailing Ponds), and other areas at Tyrone Mine at closure will be regulated pursuant to this discharge permit. These discharges may move directly or indirectly into groundwater of the State of New Mexico which has an existing concentration of 10,000 milligrams per liter (mg/L) or less of total dissolved solids (TDS) within the meaning of Section 20.6.2.3104 and Subsection A of 20.6.2.3101 NMAC. These discharges may contain water contaminants or toxic pollutants elevated above the standards of Section 20.6.2.3103 NMAC.

E. The permittee is authorized to discharge water contaminants at closure pursuant to this Supplemental Discharge Permit which includes conditions authorized or specified by Part 20.6.7 NMAC (Copper Mine Rule) on condition that the permittee complies with the Copper Mine Rule and this Supplemental Discharge Permit, which are enforceable by NMED.

F. The facility characteristics, reclamation designs, and associated reclamation cost estimate provided in the Updated CCP and referenced in this Discharge Permit are based on projected conditions at Tyrone Mine End-of-Year 2014 (EOY 2014). As provided in the Updated CCP, the permittee determined this using a 10-year mining forecast between 2012-2022. The cost estimate for closure and closeout measures for the period between 2012 and 2022 is estimated to be highest at EOY 2014 assuming that the Updated CCP is implemented for conditions existing at EOY 2014. As such, EOY 2014 conditions are the basis for all facility characteristics, reclamation designs, and associated reclamation cost estimate for Tyrone Mine. The term "EOY 2014" as used in this Discharge Permit is meant to represent the closure condition that the Updated CCP and this Discharge Permit is based upon and may not represent actual or existing conditions in EOY 2014.

A101 Applicable Regulations

A. The Tyrone Mine meets the definition of an "existing copper mine facility." Sections 20.6.2.3000 through 20.6.2.3114 NMAC and Part 20.6.7 NMAC apply to discharges specific to copper mine facilities and their operations.

B. The discharge from the mine units regulated pursuant to this Discharge Permit are not subject to any of the exemptions of Section 20.6.2.3105 NMAC, except as provided in this Supplemental Discharge Permit.

C. Groundwater quality as observed in monitoring wells required by this Discharge Permit is subject to the criteria of Sections 20.6.2.3101 and 20.6.2.3103 NMAC except as provided in Subsection D of 20.6.7.24 NMAC.

A102 Permit Duration

A. Pursuant to the WQA 74-6-5(I) and Subsection H of 20.6.2.3109 NMAC, the term of this Discharge Permit is **five (5) years** from its effective date.

B. If the permittee submits an application for renewal in accordance with Subsection G of 20.6.2.3106 NMAC, and the permittee is not in violation of the discharge permit on the date of its expiration, then the existing discharge permit shall not expire until the application for renewal has been approved or disapproved.

A103 Terms of Permit Issuance

A. **Permit Fees -** As a discharge permit associated with the Freeport-McMoRan Tyrone Mine, the permittee shall remit an annual permit fee payment for the Tyrone Mine equal to the applicable permit fee based on mine size listed in Subsection A of 20.6.7.9 NMAC on August

1 of each year until termination of all discharge permits for the Tyrone Mine. [Subsection A of 20.6.7.9 NMAC]

B. **Transfer of Discharge Permit -** Prior to the transfer of any ownership, control, or possession of this permitted facility or any portion thereof, the permittee shall notify the proposed transferee in writing of the existence of this Discharge Permit and include a copy of this Discharge Permit with the notice. The permittee shall deliver or send by certified mail to NMED a copy of the notification and proof that such notification has been received by the proposed transferee. [20.6.7.38 NMAC and 20.6.2.3111 NMAC]

C. **Permit Renewal -** To renew this Discharge Permit, the permittee shall submit an application including a Closure/Closeout Plan, and associated fees for renewal at least 270 days prior to the expiration date of this Discharge Permit in accordance with Section 20.6.7.9, Section 20.6.7.10, and Section 20.6.7.11 NMAC. The renewal application and Closure/Closeout Plan shall reflect the closure scenario with the highest cost estimate for a five-year period beyond the date of this permit expiration (i.e., based on the projected mine plan from EOY 2025 to EOY 2030).

D. **Additional Conditions -** In addition to the requirements of 20.6.7 NMAC, the permittee shall comply with the following additional conditions as authorized by Subsection I of 20.6.7.10 NMAC pursuant to WQA 74-6-5: C101.C, C104.B, C108.D.4, C110.B, C110.C, C112.B, C113.F

Part B FACILITY SPECIFIC INFORMATION

B100 History and Facility Description

A. The Tyrone Mine is an open pit copper mine facility owned by Freeport-McMoRan Tyrone Inc. which covers an area of approximately 9,000 acres and consists of several open pits, associated leach and waste rock stockpiles, collection systems, a solution extraction and electrowinning (SX/EW) plant, and reclaimed mine units. The Tyrone Mine is regulated pursuant to multiple operational groundwater discharge permits, this Supplemental Discharge Permit for Closure DP-1341, the DP-27 settlement agreement, and an abatement plan.

B. Significant mining in the area of the Tyrone Mine began in the 1870's when turquoise was discovered near Tyrone. Through the turn of the 20th century a number of companies mined turquoise, other copper minerals, and fluorspar in the area. Beginning in 1904 Phelps Dodge obtained interests in mining claims in the area, and by 1913 owned virtually all mining claims in the area and began developing a large-scale underground copper mine. From 1950 to 1959, Phelps Dodge conducted an intensive drilling program to delineate the large copper ore body

that is now encompassed within the Tyrone Mine and in 1967 began constructing open pits and installed a concentrator and support facilities. Limited stockpile leaching began in 1972 with the opening of the Precipitation Plant and in 1984 the SX/EW plant came on-line, and additional leaching operations were started and have continued to present day. The concentrator ceased operation in 1992 and was demolished and reclaimed.

C. The Tyrone Mine comprises four geographic areas: Operational Mining Area, the Oak Grove Wash/Brick Kiln Gulch Area, the Deadman Canyon Area, and the Mangas Valley Tailing Area described below. The mine areas are shown on Figures 1 and 2 attached to this Discharge Permit.

1. The Operational Mining Area is regulated pursuant to Operational Discharge Permits DP-166, DP-286, DP-363, DP-396, DP-435, and DP-455. Mine units in the Operational Mining Area include the 1A, 1B, 2, 2A, 2B, 3A, 6A, 6B, 6C, 6D, 7B, the Valencia, and Gettysburg In-Pit Leach Stockpiles; the 8A, 8C, 7B, 7C, 9A, 9AX, South Rim, and San Salvador Waste Rock Stockpiles; and the open pits including the Main Pit, the Copper Mountain Pit, the San Salvador Pit, the West Main II Pit, West Main III Pit, and Valencia Pit. The West Main II, West Main III, and Valencia Pits are located in, and considered sub-pits to the Main Pit. The Main Pit and the Copper Mountain Pit have been excavated below the regional water table and are being dewatered to facilitate mining. Dewatering of the Main and Copper Mountain Pits has created areas of hydrologic containment around the pits as defined by existing monitoring wells. The Operational Mining Area also includes the reclaimed 1C and 7A Waste Rock Stockpiles. Portions of the Main, San Salvador, South Rim, and Gettysburg pits have been backfilled with waste rock or leach ore to facilitate mining and reclamation. Additional facilities in the Operational Mining Area include sumps, pregnant leach solution (PLS) collection facilities, tanks, booster stations, pipeline systems, and numerous buildings and various ancillary structures. Major mine units located in the Operational Mining Area are shown on Figure 2 attached to this Discharge Permit

a) Perched and regional groundwater in the Operational Mining Area has been impacted by mining operations, including from the leaching of ore stockpiles. Seepage interceptor systems have been installed downgradient from the operational and reclaimed leach stockpiles located outside of the Open Pit Surface Drainage Area (OPSDA) to collect leachate and impacted groundwater. An interceptor well system consisting of several interceptor wells has been installed downgradient of the 3A Leach Stockpile to capture impacted regional groundwater.

b) Reclaimed mine units in the Operational Area include the 1C, 7A and 7A Far West Stockpiles, and the Concentrator/Mill. The 1C, 7A and 7A Far West Stockpiles were reclaimed beginning in 2004 through 2012 and the reclamation activities included

construction of test plots on the south facing out slope and top surface of the 7A Stockpile. Reclamation of the Tyrone Mill and Concentrator began in 2004 and was completed in 2007.

2. The permittee is in the process of constructing a new stockpile identified as the CSG Stockpile in accordance with DP-286 which will be located northeast of the Main Pit. The CSG Stockpile will be constructed of non-impacted Gila Conglomerate obtained from deposits that will be encountered as mining of copper ore in the Main Pit advances to the northeast. The permittee intends to use Gila Conglomerate from the CSG Stockpile as cover material during reclamation. The Oak Grove Wash/Brick Kiln Gulch Area is regulated pursuant to DP-896. Mine units in the area include the reclaimed No. 1 Leach Stockpile, the reclaimed historic Burro Mountain Tailing Impoundment, the acid unloading unit, and former precipitation plant. Reclamation of the No.1 Leach Stockpile began in 2005 with construction of test plots on the west side of the stockpile. The No. 1 Leach Stockpile was reclaimed in 2009. The Burro Mountain Tailing Impoundment was reclaimed in 2004-2005.

   a) Perched alluvial and regional groundwater in the Oak Grove Wash/Brick Kiln Gulch Area has been impacted by current and past mining operations. Known and potential sources of groundwater impacts in this area include seepage from the operational 1A and 1B Leach Stockpiles, the reclaimed No. 1 Stockpile, the reclaimed 1C Stockpile, and the reclaimed Burro Mountain Tailing Impoundment. The regional groundwater in the area has likely been impacted by the perched alluvial water migrating downward into the regional groundwater. Installation of collection trenches at the toes of the 1A, 1B, 1C, and No. 1 Stockpile and a downgradient collection trench in Upper Oak Grove Wash has improved groundwater quality in perched alluvial groundwater

   b) Pursuant to the conditionally approved February 9, 2012 Tyrone Mine Stage 2 Abatement Plan Proposal, the permittee recently completed construction of an extensive French drain type of interceptor system below the confluence of Oak Grove Wash and Brick Kiln Gulch to capture impacted perched alluvial groundwater.

   c) In 2007 local areas of impacted acidic soils that generally lacked vegetation were identified in the Brick Kiln Gulch Area along the county road that parallels Brick Kiln Gulch. The impacted soils were reclaimed in 2008 by covering the soils with clean cover, grading them to create positive drainage, and seeding the reclaimed areas.

3. The Deadman Canyon Area is regulated pursuant to DP-166. Deadman Canyon is an ephemeral drainage located west of the Operational Mining Area containing relatively shallow perched alluvial water at a depth of approximately 10 feet. The perched alluvial water has been impacted by seepage from the historic reclaimed USNR Leach Stockpile

and operational leach stockpiles located east of Deadman Canyon in the west portion of the Operational Mining Area. Prior to 2000, the USNR site consisted of a leach stockpile with an asphalt liner and PLS collection ponds. In the early 2000s, most of the leach stockpile and asphalt was removed and the site was partially graded, covered with 6-inches to 1-foot of cover and seeded. During the period from 2014 to 2017, additional reclamation of the USNR site was performed, including removal of residual leach material, extensive grading, construction of two test plots on the west outslope, construction of drainage channels and seep collection systems, and placing a minimum of thirty-six inches of cover material and seeding. Seepage from the operational leach stockpiles and reclaimed USNR Leach Stockpile is collected in a series of seepage collection structures. During 2016 and 2017 a concrete cutoff-wall was constructed in Deadman Canyon downgradient of where seepage is entering Deadman Canyon alluvium to collect the impacted groundwater. The Deadman Canyon Area is shown on Figure 1 attached to this Discharge Permit.

4. The Mangas Valley Tailing Area is located north of the Operational Mining Area and includes the reclaimed 2, 3, 3X, 1, 1A, and 1X Tailing Impoundments, and the partially reclaimed Tailing Launder. Pursuant to the DP-27 Settlement Agreement, reclamation of 2, 3, and 3X Tailing Impoundments began in 2004 and was completed in 2009. Reclamation activities commenced on the 1, 1A, and 1X Tailing Impoundments in 2006 and was completed in 2008. Persistent, extensive zones of perched groundwater have not been identified in the Mangas Valley Tailing Area except following precipitation events when perched water may exist in the alluvium of shallow tributaries to the Mangas Wash. In most parts of the Mangas Valley Tailing Area, alluvial waters are continuous with regional waters. Most monitoring wells in the Mangas Valley Tailing Area meet water quality standards of Section 20.6.2.3103 NMAC. Monitoring wells that do not meet water quality standards typically only exceed standards for total dissolved solids and sulfate.

   a) The construction of a groundwater extraction system at the toe of the 1X Tailing Impoundment consisting of several extraction wells was completed in 1991 to capture impacted water from the saturated alluvium in the northern portion of Deadman Canyon, which was covered by the 1X Tailing Impoundment.

   b) Tailing Launder: Demolition of the Tailing Launder was initiated in 2004 as part of pre-cover reclamation activities on the 3X Tailing Impoundment. Closure of the launder and associated pipeline included crushing the concrete structure, removal of buried pipe and burial of demolition materials in trenches and repositories. Removal of existing embankments and associated culverts and removal of an approximate 300 - foot section of launder trestle crossing the Redrock Diversion between the 2 and 3X Tailing Impoundments is needed to complete demolition of the Tailing Launder.

   c) Tailing Repositories: In 1981, approximately 2.5 million cubic yards of tailing material was released from the No. 3 Tailing Impoundment following a breach in the

northwestern corner of the impoundment. Following the release, the fugitive tailings were consolidated into repositories adjacent to the No. 3 Tailing Impoundment and at various downstream locations. Additional reclamation of the repositories was performed in 2004 and 2005. Figure 3 shows the locations of the reclaimed tailing repositories.

B101 Modification

A. The modification of DP-1341 includes updating the Closure/Closeout Plan and cost estimate and incorporating the monitoring requirements of the DP-27 Settlement Agreement into this Discharge Permit. Mine units regulated pursuant to the DP-27 Settlement Agreement include the Mangas Valley Tailing Area consisting of the reclaimed 1, 1A, 1X, 2, 3X, and 3 Tailing Impoundments and associated facilities. The associated facilities include, but are not limited to, the groundwater extraction system at the toe of the 1X Tailing Impoundment and the reclaimed Tailing Repositories. The DP-27 Settlement Agreement will be terminated after issuance of this Discharge Permit.

B102 Permitting History

A. The Discharge Plan for DP-1341 consists of the Discharge Permit Renewal application dated October 11, 2007, updated Closure/Closeout Plans dated October 11, 2007, July 15, 2013, an updated Closure/Closeout Plan dated July 15, 2013, the Revised 2013 updated Closure/Closeout Plan dated July 30, 2019, and materials contained in the administrative record prior to issuance of this Discharge Permit. As part of the application process the permittee also provided a document dated October 6, 2015 and reissued with an addendum dated June 9, 2017 referred to as the Tyrone Master Document (TMD) which addresses Copper Mine Rule application requirements and is applicable to all of the Tyrone Mine discharge permits, including DP-1341. In addition, the Discharge Plan for DP-1341 includes applicable information and materials submitted as part of the original Discharge Plan for DP-1341 approved on April 8, 2003 and revised on June 28, 2004.

B103 Facility Location, Groundwater and Process Water Characteristics

A. The mine units regulated pursuant to DP-1341 are located approximately 10 miles southwest of Silver City in Sections 34 and 35, T17S, R16W; Sections 1, 2, 11, 12, 13, and 24, T18S, R16W; Sections 17, 18, 19, 20, 21, 28, 29, 30, 33 and 34, T18S, R15W; Sections 19, 20, 29 and 30, T19S, R14W; Sections 3, 4, 5, 8, 9, 10, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, and 28, T19S, R15W in Grant County.

B. Groundwater beneath the mine units regulated pursuant to DP-1341 is at a depth of approximately 0 – 300 feet and had a pre-discharge TDS concentration range from approximately 200 to 1,500 milligrams/liter (mg/L). Groundwater background concentrations

may exceed water quality standards under the WQCC Regulations for some constituents in certain areas of the mine, although NMED has not yet made any formal background determinations.

C. The Tyrone Mine Open Pit walls and benches, leach stockpiles, waste rock stockpiles, tailing impoundments and other disturbed areas at the Tyrone Mine may contain sulfide minerals which, when oxidized, generate acidic solutions. These acidic solutions react with in-situ minerals to produce acid rock drainage (ARD) that typically contains TDS, sulfate and certain metals in concentrations that may exceed water quality standards of Section 20.6.2.3103 NMAC.

D. Process water and impacted stormwater discharges regulated pursuant to DP-1341, including acid mine drainage, are typically outside the acceptable range for pH and contain TDS, sulfate, and certain metals in concentrations that exceed the water quality standards of Section 20.6.2.3103 NMAC.

B104 Mine Units to be Closed

This Discharge Permit contains requirements associated with closure of the following mine units as identified in the Updated CCP and Discharge Plan. All mine units listed below are "existing" mine units pursuant to the Copper Mine Rule and are located outside the OPSDA as defined by Section 20.6.7.7 NMAC, unless otherwise noted. The OPSDA and Area of Open Pit Hydrologic Containment (AOPHC) are shown on Figure 5 of this Discharge Permit. A reclamation schedule and anticipated duration to reclaim each mine unit is provided in Table 9-1 of the Updated CCP.

A. Open Pits

1. During and after closure the groundwater within the AOPHC and surface water within the OPSDA will be captured within the Main, Copper Mountain, and Gettysburg Open Pits. Existing pit dewatering and stormwater management systems will continue to be operated and maintained after closure. The open pit bottoms will be used as part of the collection and treatment system following closure; specifically, water that is captured within the pits will either evaporate or be treated in the water treatment system and then released. The configuration of the pits at EOY 2014 is shown on Figure 2-11 of the Updated CCP. The EOY 2014 open pits encompass approximately 1,516 acres in aerial extent.

B. Waste Rock and Leach Stockpiles

1. Based on the EOY 2014 Mine Plan, approximately 2,586 acres of waste rock leach stockpiles will require reclamation. These include the 1, 1A, 2A, 2B, 2C, 3A, 4A, 4B, 4C, 4D, 6A, 6B, 6C, 6D, Valencia In-Pit, Savannah, and Gettysburg In-Pit Leach Stockpiles; and the

3B, 5A, 8A, 9A, and 9AX Waste Rock Stockpiles. The Copper Mine Rule does not require stockpile outslopes inside the OPSDA to be regraded and covered (Subsection C of 20.6.7.33 NMAC). Areas not required or proposed to be reclaimed include the slopes of the Savannah In-pit Leach Stockpile and the interior slopes that drain into the pit of the 1A, 1B, 2B, 2C, 4A, 6B, and the 6C Leach Stockpiles. Leach stockpiles located outside of the OPSDA and requiring full reclamation include the 1 Leach (reclaimed) 2A, 3A, 4B, 4C, and 7B. Waste rock stockpiles located outside the OPSDA and requiring full reclamation include the 1C (reclaimed), 2B, 7A, (reclaimed), the 7A Far West (reclaimed), and all of the 3B Stockpile except the interior slopes. EOY 2014 configurations of the waste rock and leach stockpiles are shown in Appendix A of the Updated CCP.

2. The Leach Stockpiles will be used as part of the short-term evaporative treatment system during the post-closure period and will not be reclaimed until the short-term evaporation phase is complete. Initiation of the leach stockpile reclamation will begin at the Savannah In-pit Leach Stockpile at the end of year 5 following closure and reclamation of the remaining leach stockpiles will be initiated in the beginning of the second quarter of year 10 following closure.

C. Impoundments, Tanks, Pipelines, Sumps, and Other Containment Systems

1. Impoundments: Impoundments are defined in the Updated CCP as storage tanks for process waters, seepage collection waters, and extracted groundwater/pit water; stormwater catchments; dams; reservoirs, and surface impoundments. Table 5-1 of the Updated CCP lists surface impoundments that will be utilized throughout the post-closure period after which time the majority will be reclaimed. Surface impoundments will be used during the post-closure period to intercept surface water, seeps, or perched groundwater and direct flows to permanent impoundments or treatment facilities. A smaller number of impoundments associated with stockpile toe perimeter and groundwater control systems are planned to be permanent parts of the reclamation system and will be maintained throughout the post-closure period. The disposition of specific facilities with respect to closure/closeout is discussed in Section 5.0 of the Updated CCP.

2. Pipeline corridors located outside the regraded footprint of stockpiles and outside the OPSDA will be inspected and characterized for evidence of past spills that could potentially cause exceedances of water quality standards of Section 20.6.4 NMAC and Section 20.6.2.3103 NMAC. If soils have been impacted, the material will be removed or covered with thirty-six inches of reclamation cover material.

3. Groundwater Interceptor Systems: These include groundwater extraction wells and interceptor trenches along the toe of the 3A Leach Stockpile, interceptor trenches along the toes of the 1C, 7A, 7A Far West, 1, 1A, 1B Leach Stockpiles, interceptor trenches in the

Deadman Canyon and Oak Grove/Brick Kiln Gulch Areas and any other groundwater interceptor systems that may be in place during the post-closure period and continue to operate until groundwater standards are met at those locations.

D. SX/EW Plant, Miscellaneous Disturbed Areas, Haul and Access Roads and Ancillary Facilities. Table 4-1 of the Updated CCP lists the facilities to be demolished, and Table 7-3 lists the Post-Mining Land-Use (PMLU) designations of Tyrone Mine Buildings.

1. SX/EW Plant: The majority of the buildings and other components of the SX/EW Plant will be demolished at closure. The Electrical Substation, Raffinate Storage Tanks and the PLS Feed Pond will remain and be used as part of the post-closure water treatment system. Many of the buildings and ancillary facilities such as maintenance buildings and other components of the SX/EW Plant will be demolished at closure. An industrial PMLU has been designated for the SX/EW area. Figure 2-6 in the Updated CCP shows layout and components of the SX/EW Plant.

2. Many buildings at the Tyrone Mine will remain after closure for post-closure as approved for an industrial PMLU pursuant to the permit issued by MMD. The areas approved for an industrial PMLU have the infrastructure necessary to support a variety of future industrial uses. Buildings to be demolished and reclaimed at closure are listed in Table 4-1 of the Updated CCP. MM

3. Various ancillary facilities and disturbed areas associated with mine activity, including haul roads and operational roads, existing borrow areas, utility and structure foundations, power lines and buildings no longer required for the approved PMLU will be reclaimed at closure. Table 4-1 of the Updated CCP lists the ancillary facilities to be reclaimed at closure. The reclamation plan includes the total estimated area of 125 acres for this miscellaneous group of disturbed areas within the copper mine facility.

E. Flow Measurement Devices

1. The permittee will utilize flow meters to measure regulated discharge volumes at closure as required by the Copper Mine Rule. Flow meters are described in Table 10 of the TMD.

F. Truck and Equipment Washing Units

1. All truck and equipment washing units described in Table 9 of the TMD will require reclamation at closure.

B105 Closure Water Management and Water Treatment

A. The permittee will collect and treat process waters associated with mine operations beginning at closure and continuing for a minimum duration of 100 years following cessation of mining operations. The permittee will treat these waters to meet all applicable water quality criteria for discharge. Appendix D of the Updated CCP identifies five sources of process water, impacted stormwater, and seepage that will require management and treatment, classified in two general categories as "High TDS and Sulfate Process Waters," and "Low TDS and Sulfate Process Waters". High TDS and Sulfate Process Waters include residual process solutions from the copper ore leach operation (PLS and raffinate); meteoric water that infiltrates through the leach stockpiles to seepage collection systems; and impacted stormwater runoff resulting from contact with un-reclaimed leach stockpiles. Low TDS and Sulfate Process Waters include meteoric water that infiltrates through the waste rock stockpiles to seepage collection systems; impacted stormwater runoff that comes into contact with un-reclaimed waste rock stockpiles; impacted stormwater runoff that comes into contact with un-reclaimed pit walls; dewatering water from the open pit sumps; and impacted groundwater captured in seepage collection and groundwater interceptor well systems.

B. To meet process solution reduction, water management, and water treatment plan requirements set forth in Subsections G and H of 20.6.7.33 NMAC, the permittee has proposed a short-term and long-term evaporation and water treatment plan. A short-term evaporative treatment system (ETS) utilizing forced mechanical-spray evaporation and wetted-surface evaporation (via existing drip systems on leach stockpiles) will be utilized to evaporate process waters for the first nine years following closure. A long-term ETS with forced mechanical-spray evaporation and wetted-surface evaporation at impoundments located at the toes of leach stockpiles will be utilized to evaporate the High TDS and Sulfate process waters beginning in year ten and continuing through year 100 following closure. A combined high-density sludge (HDS) and membrane water treatment system consisting of microfiltration and reverse osmosis (RO) will be utilized beginning in year 15 and continuing through year 100 following closure to treat the Low TDS and Sulfate Process Waters at the Tyrone Mine. The HDS System will treat Low TDS and Sulfate Process Waters that have metals contamination by increasing the pH and removing metals and sulfate. The RO system will treat sulfate and TDS impacted water and HDS treated water. The combined systems are referred to as the Tyrone Treatment System (TTS) and will be located in SX/EW Plant Area. A water treatment system block flow diagram for Low TDS and Sulfate Process Waters is presented in Appendix D of the Updated CCP. Two HDPE-lined impoundments for sludge and salt disposal will be constructed to dispose of sludge generated from the HDS System, salt from the LT-ETS and brine reject from the membrane water treatment system. The Sludge Disposal Facility will be constructed on the top surface of the 3A Stockpile and the Salt Disposal Facility will be constructed in the area of the 2A Leach Stockpile Decant Ponds.

B106 Authorized Discharges Following Closure

Following closure, the permittee shall manage the discharges associated with the features listed below in accordance with this Discharge Permit and as described in the Closure Water Management and Water Treatment Plan required in Condition C108.A the Surface Water Management Plan required in Condition C107.B and the Discharge Plan.

A. The permittee is authorized to manage discharges associated with the mine units identified in B104 and the Updated CCP for closure and post-closure purposes.

B. The permittee is authorized to implement the Closure Water Management and Treatment Plan, described in Appendix C of the Updated CCP and required by C108.A, at closure to contain, collect, and treat all the water sources described in B105.A including process water, impacted stormwater, and seepage.

C. The permittee is authorized to discharge up to 985 gallons per minute (gpm) of treated water from the TTS to Mangas Wash in accordance with to all applicable ground and surface water quality standards for discharge, including applicable NPDES and Ground Water Quality Bureau permitting requirements.

D. This Discharge Permit authorizes only those discharges specified herein. Any unauthorized discharges such as spills or leaks must be reported to NMED and remediated as required by Section 20.6.2.1203 NMAC, and any additional requirements listed in this Discharge Permit.

E. The permittee shall provide written notice to NMED of the commencement, or recommencement of operations in accordance with Subsection C of 20.6.7.18 NMAC.

Part C CLOSURE SPECIFIC REQUIREMENTS

The permittee shall conduct the requirements set forth below, in accordance with Sections 20.6.2.3106 and 20.6.2.3107 NMAC to ensure compliance with Part 20.6.2 NMAC, and in accordance with applicable requirements of Part 20.6.7 NMAC. Requirements listed in Part C are applicable for the closure and post closure period for the copper mine facility and to all currently reclaimed mine units and any additional mine units reclaimed prior to implementation of the closure plan for the entire copper mine facility. Specific closure requirements are discussed herein.

C100 Closure - General

A. Closure of all mine units associated with this Discharge Permit shall be performed in accordance with applicable sections of the Copper Mine Rule including requirements listed in

Sections 20.6.7.33 and 20.6.7.34 NMAC; the Updated CCP; the renewal Discharge Permit Application; this Discharge Permit and applicable requirements from MMD.

C101 Open Pits

A. The Tyrone Mine Open Pits shall be closed in accordance with the applicable requirements of Section 20.6.7.33 NMAC and the Updated CCP.

B. In order to minimize the potential to cause an exceedance of applicable water quality standards and to meet criteria presented in Subsection D of 20.6.7.33 NMAC, the Main, Gettysburg, Copper Mountain and Savannah Open Pits shall be managed during closure and post-closure such that they remain hydrologic sinks.

C. The permittee shall minimize the size of the open pit water bodies to the maximum extent practicable by pumping from the Main, Gettysburg, Copper Mountain and Savannah Open Pits after closure.

C102 Waste Rock and Leach Stockpiles

A. The permittee shall close waste rock and leach stockpiles in accordance with the Updated CCP and comply with applicable closure requirements listed in Subsections A, B, C, and F of 20.6.7.33 NMAC.

B. Pursuant to Subsection F of 20.6.7.33 NMAC, a thirty-six-inch-thick cover system shall be placed on top surfaces of leach and waste rock stockpiles inside OPSDA.

C103 Impoundments, Tanks, Pipelines, Sumps and Other Containment Systems

A. The permittee shall maintain and operate impoundments proposed for closure and post-closure purposes in accordance with the Updated CCP, this Discharge Permit and applicable requirements listed in Subsection F of 20.6.7.18 NMAC.

B. Existing impoundments or newly constructed impoundments to be used for closure and post-closure purposes located outside the OPSDA shall meet requirements of Subsection D of 20.6.7.17 NMAC or Subsection F of 20.6.7.18 NMAC.

C. The permittee shall close impoundments designated for closure at EOY 2014 and listed in Table 2-1 of the Updated CCP in accordance with the Updated CCP and applicable closure requirements listed in Subsection I of 20.6.7.33 NMAC.

D. The permittee shall maintain, operate, and/or close tanks, pipelines, sumps and other containment systems in accordance with the Updated CCP and comply with applicable closure requirements listed in Subsection J of 20.6.7.33 NMAC.

E. Pursuant to Subsection A of 20.6.7.35 NMAC, the permittee shall perform quarterly inspections and annual evaluations of all seepage collection and interception systems and perform maintenance as necessary. Locations to be monitored include extraction wells, any new collection points added to any seepage interceptor system installed after issuance of this Discharge Permit, and any other seepage collection and interceptor system components that may be in place following facility closure.

F. Pursuant to Subsection J of 20.6.7.33 NMAC, upon discontinuing the operation of, or before moving tanks, pipelines, sumps, or other containment systems, all liquids shall be released to a location specifically authorized in the discharge permit, an alternate location subject to NMED approval or otherwise properly contained, transferred, or disposed of in a manner that does not result in discharge to non-authorized areas.

G. Pursuant to Subsection J of 20.6.7.33 NMAC, pipeline corridors located outside the regraded footprint of stockpiles and outside the OPSDA shall be inspected and characterized for evidence of past spills that could potentially cause exceedances of water quality standards of Section 20.6.4 NMAC and Section 20.6.2.3103 NMAC. If soils have been impacted, the material shall be removed or covered with thirty-six inches of Reclamation Cover Material as defined in C109.A. Where process water pipelines are removed or buried, the pipeline corridor will be revegetated in accordance with MMD requirements.

C104 Miscellaneous Disturbed Areas

A. Miscellaneous disturbed areas such as roads, SX/EW area, Lube Shop, equipment storage areas and pipeline and utility corridors shall be reclaimed in accordance with the Updated CCP and applicable closure requirements listed in 20.6.7.33 NMAC.

B. All exploration drill holes not eliminated as a result of mining shall be plugged and abandoned consistent with Section 19.10.3.302.L NMAC unless an alternate method is approved by NMED. The permittee shall prepare a drill hole plugging report and include the report with the Construction Quality Assurance/Construction Quality Control (CQA/CQC) report required pursuant to Subsection G of 20.6.7.34 NMAC. The report shall include a description of the plugging procedures used, a table with Universal Transverse Mercator (UTM) coordinates of the plugged drill holes, and a map or aerial photograph showing the location of the plugged drill holes.

C105 Flow Measurement Devices

A. Pursuant to Paragraph (2) of 20.6.7.18.E NMAC, the permittee shall visually inspect all flow measurement devices used during the closure and post-closure period on a monthly basis for evidence of malfunction and repair or replace malfunctioning flow measurement devices within 30 days of or as soon as practicable following discovery.

C106 Truck and Equipment Washing Units

A. All truck and equipment washing units shall be closed in a manner that is protective of surface and groundwater quality. Soil around truck and equipment washing units shall be sampled and analyzed for contaminants of concern. Any materials containing water contaminants that may cause an exceedance of the applicable water quality standards shall be removed or disposed of in a department-approved manner or covered in accordance with Subsection F of 20.6.7.33 NMAC.

C107 Stormwater Management

A. Pursuant to Paragraph (5) of 20.6.7.35.C NMAC, following closure the permittee shall inspect quarterly and after rain events of one inch or greater in 24 hours, and perform maintenance as necessary to all stormwater impoundments, diversion structures, and collection ponds in accordance with the Surface Water Management Plan required in Condition C107.B, the Updated CCP, and applicable requirements of Subsections A, E, and H of 20.6.7.33 NMAC. Inspection results shall be reported pursuant to Subsection D of 20.6.7.35 NMAC and C112.

B. The permittee shall submit to NMED for approval a Surface Water Management Plan as part of the CQA/CQC plan submitted pursuant to Subsection E of 20.6.7.33 and Paragraph (4) of 20.6.7.33.F NMAC and required by C111.B. The surface water management plan shall detail how stormwater and sediment generated from the copper mine facility during reclamation will be managed. The plan shall include maps in addition to narrative descriptions of sequencing of reclamation for each mine unit, discuss how clean stormwater will be segregated from impacted stormwater during reclamation, and a schedule for inspection of stormwater impoundments.

C108 Closure Water Management and Treatment Plan

A. The permittee shall manage all collected impacted water and sediment at closure in accordance with the Closure Water Management and Treatment Plan described in Appendix D of the Updated CCP and in accordance with Subsections G and H of 20.6.7.33 NMAC.

B. The permittee shall continue to implement the Closure Water Management and Treatment Plan during the post-closure period pursuant to Paragraph (6) of 20.6.7.35.C NMAC. The water

management and treatment plan may be modified in accordance with its terms or by NMED-approval to reflect changes in site conditions.

C. The permittee shall inspect and maintain all closure water management facilities in accordance with the Closure and Post-Closure Monitoring and Reporting Requirements described in C112 and Subsection L of 20.6.7.33 NMAC.

D. Tyrone Treatment System (TTS)

1. In accordance with Subparagraph (6) of 20.6.7.35.C NMAC, the permittee shall construct, operate, and maintain the TTS water treatment system in accordance with the schedule and design described in Appendix D of the Updated CCP to treat all impacted water at the mine facility. The water treatment system shall be designed with a useful operating life of a minimum of 100 years and the operating life design shall consider replacement costs for the water treatment system. Operation of the water treatment system shall commence at year 15 following closure. Water shall be treated to meet all applicable WQCC water quality standards at the discharge location and shall be discharged in accordance with all applicable federal, state, and local laws, regulations, and permits.

2. The permittee shall treat impacted water pumped from the Tyrone Mine Open Pits as required by the Closure Water Management and Treatment Plan required in Conditions C101.C and C108.A.

3. Dewatered sludge and salts generated as byproducts of the TTS operation and maintenance shall be disposed of in accordance with the sludge and salt disposal plan described in Appendix D of the Updated CCP. Sludge shall be disposed in the proposed HDPE-lined Sludge Disposal Facility, and salts shall be disposed of in the proposed HDPE-lined Salt Disposal Facility.

4. The permittee shall maintain adequate water rights to implement the Closure Water Management and Treatment Plan required in C108.A.

    a. Within 180 days of the effective date of this Discharge Permit the permittee shall provide an analysis to NMED that demonstrates the amount of water rights required to implement the Closure Water Management and Treatment Plan in the event of a forfeiture. The analysis shall also evaluate mechanisms that ensure the water rights are available to the State of New Mexico to implement the Closure Water Management and Treatment Plan in the event of a forfeiture, including but not limited to establishment of a water rights trust.

C109 Reclamation Cover Material

A. Pursuant to Subsection F of 20.6.7.33 NMAC, covers placed on waste rock stockpiles, leach stockpiles, tailing impoundments, and other units that have the potential to generate leachate and cause an exceedance of applicable standards at monitoring well locations specified by 20.6.7.28 NMAC shall consist of a minimum of 36 inches of Reclamation Cover Material (RCM). Potential RCM is listed as native soils, alluvium, in-situ Gila Conglomerate, and Precambrian Granite overburden from the Little Rock Mine and Copper Mountain Pit Expansion Area that meets the requirements of Subsection F of 20.6.7.33 NMAC. RCM meeting the water holding capacity, and with appropriate erosion-resistant and growth media properties as required by Subsection F of 20.6.7.33 NMAC may be sourced for use as cover material from the existing RCM stockpiles, planned borrow areas, or combined with other approved, suitable materials using an approved cover material handling plan. Final RCM approval is subject to a demonstration that Copper Mine Rule requirements will be met, and concurrence from MMD that requirements of the Mining Act will be met.

B. Pursuant to Paragraph (4) of Subsection F of 20.6.7.33 NMAC, a CQA/CQC plan for the final cover design shall be submitted for NMED approval.

C110 Additional Studies

A. Sampling and Analysis Plan (SAP) - The permittee shall submit a comprehensive Sampling and Analysis Plan for NMED approval within 180 days of the effective date of this Discharge Permit that will be implemented during the closure and post-closure period. The SAP shall contain three primary components: 1) current monitoring required for mine units that have already been reclaimed (see C112.E(4), 2) Monitoring to be implemented during the closure and post-closure period and 3) monitoring to fulfil abatement plan requirements. The SAP shall identify specific sampling and discharge volume reporting locations including, but not limited to groundwater, surface water (including surface waters of the state), process water, stormwater, TTS water, pit lake water, seeps, and spring sampling locations.

    1. The SAP shall be updated every five years and included with the discharge permit renewal application, closure/closeout plan, and cost estimate.

B. Precipitation Analysis - The permittee shall submit a precipitation analysis workplan for NMED approval within one year of the effective date of this Discharge Permit (by DATE) that includes evaluation of current climatological site condition data and forward projections to determine the adequacy of the design of stormwater structures proposed at closure at the Tyrone Mine.

C. Highwall Risk Analysis – Within one year of issuance of this Discharge Permit the permittee shall submit to NMED for approval a plan to perform a risk analysis regarding possible impacts

the failure of open pit highwalls could have on mine units during closure, including facilities associated with long-term water treatment. The plan shall include methods that will be used to evaluate the possible impacts to mine units during closure.

D. Closure Access Workplan - In order to ensure compliance with the requirements of Subparagraph (3) of 20.6.7.35.C NMAC, within one year of the effective date of this Discharge Permit, the permittee shall provide technical information identifying how access by wildlife and unauthorized members of the public will be prevented to the open pit, reservoirs, impoundments, or sumps that will contain water at closure and that may present a hazard to public health or wildlife.

C111 Implementation of Closure

A. Pursuant to Subsection A of 20.6.7.34 NMAC, the permittee shall submit to NMED in writing a Notice of Intent to Close indicating the permittee intends to close an individual mine unit at the copper mine facility or intends to implement the closure plan for the copper mine facility. Notification shall be given at least 30 days prior to implementation of closure construction activities.

B. Pursuant to Subsections B and F of 20.6.7.34 NMAC, the permittee shall submit a final design and CQA/CQC plan to NMED for approval within 180 days of submission of the Notice of Intent to Close required by Subsection A of 20.6.7.34 NMAC. The final design and CQA/CQC plan shall be submitted at least 60 days prior to construction, including commencement of surface shaping activities of any area subject to a closure plan and where cover is required under the approved closure plan pursuant to the Copper Mine Rule.

C. Pursuant to Subsection C of 20.6.7.34 NMAC, the permittee shall provide NMED with written notification within 30 days of the date of a suspension or resumption of the operational status of the copper mine facility. During a suspension of the operational status, each subsequent semi-annual monitoring report submitted shall state whether the permittee intends to resume operations, the anticipated date of resumption of operations, or the conditions under which operations will resume.

D. Pursuant to Subsection D of 20.6.7.34 NMAC, following suspension of leaching activities for a period of more than one year, subject to the permittee's exercise of its rights under that Subsection, NMED may determine that the permittee is in violation of the Copper Mine Rule if the permittee fails to implement closure in a timely manner.

E. The permittee may request deferral of closure of a mine unit that has reached the end of its useful life with no intent by the permittee to resume operations if the proximity of active operations could result in ongoing contamination of the unit, closure would require relocation

or replacement of infrastructure that supports ongoing operations, or for other good cause shown in accordance with Subsection E of 20.6.7.34 NMAC.

F. In accordance with Section 20.6.7.35 NMAC, for each mine unit closed, the closure period shall cease, and the post-closure period shall commence following NMED approval of a final CQA/CQC report that is in accordance with Subsection G of 20.6.7.34 NMAC. The permittee shall submit a final CQA/CQC report for NMED approval within 180 days after project completion in accordance with Subsection G of 20.6.7.34 NMAC.

G. In accordance with Section 20.6.7.35 NMAC, the post-closure period shall cease for a mine unit upon completion of all applicable post-closure monitoring, inspection and maintenance for the mine unit, including requirements listed in C112.

H. In accordance with Section 20.6.7.35 NMAC, the post-closure period for the copper mine facility shall cease upon completion of all applicable post-closure monitoring, inspections, and maintenance requirements, including those listed in C112 and operation of the water management and treatment plan is authorized by NMED to cease.

C112 Closure and Post-Closure Monitoring and Reporting Requirements

A. The permittee shall collect, preserve, transport, and analyze all groundwater, surface water, stormwater, open pit water, and seeps, and spring samples collected for laboratory analyses from the facility in accordance with the applicable requirements of Sections 20.6.7.28, 20.6.7.29, 20.6.7.33, and 20.6.7.35 NMAC, the approved SAP required by C110, and any additional requirements listed in this Discharge Permit.

B. Samples of open pit water, stormwater, PLS, seeps, and process water shall be analyzed for total concentrations for metal parameters (Suite C of Table 1) and dissolved concentrations for all parameters (including metal parameters) in accordance with Table 1 of this Discharge Permit. Samples of groundwater and springs shall be analyzed for dissolved concentrations in accordance with Table 1 of this Discharge Permit.

C. The permittee shall submit monitoring reports to NMED on a semi-annual basis that contain all quarterly monitoring data and information collected pursuant to the requirements of this Discharge Permit, and applicable requirements of Section 20.6.7.29 NMAC and Section 20.6.7.35 NMAC. Semi-annual reports are due by February 28 and August 31 of each year. Data required to be submitted annually shall be submitted in the monitoring report due by February 28 of each year.

D. Changes to monitoring and reporting requirements may require amendment or modification of this Discharge Permit as required by the Secretary. [20.6.2.7.P and 20.6.7.7.B(19) NMAC]

E. Groundwater

1. Pursuant to Subsection B of 20.6.7.35 NMAC, the permittee shall conduct closure and post-closure groundwater monitoring in accordance with an approved SAP required in C110 and the appropriate operational Discharge Permits for monitoring wells which were subject to monitoring at the time of or following site closure. The permittee shall record the depth-to-water to the nearest hundredth of a foot (0.01 ft) in all monitoring wells. Samples shall be analyzed for the water parameters listed in Table 1. Analytical results shall be submitted in the semi-annual monitoring reports in the format specified by Subsection C of 20.6.7.29 and Subsection D of 20.6.7.35 NMAC.

2. Pursuant to Subsection G of 20.6.7.28 NMAC, the permittee shall sample and analyze groundwater quality in any private supply well within a reasonable proximity to the Tyrone Mine when the well owner or NMED requests an analysis and there is a reasonable basis. The permittee shall make a good faith effort to obtain access to private wells for which NMED requests analysis. Samples shall be collected and analyzed for the water parameters listed in Table 1. Analytical results shall be mailed to the owner of the private supply well and submitted in the semi-annual monitoring reports in the format specified by Subsection C of 20.6.7.29 and Subsection D of 20.6.7.35 NMAC.

3. Pursuant to Subsection L of 20.6.7.28 NMAC and Subsection B of 20.6.7.35 NMAC, the permittee shall submit groundwater elevation contour maps for the Tyrone Mine on a semi-annual basis, and a map(s) showing the current extent of the OPSDA and the AOPHC on an annual basis. The groundwater elevation contour maps shall include land surface topographic contours with appropriate contour intervals, and shall include the monitoring wells, extraction wells, piezometers, seeps, and springs that the groundwater data is based on. The groundwater elevation contour maps shall be submitted in the semi-annual reports due by February 28 and August 31 of each year. The OPSDA and AOPHC map(s) shall be submitted in the monitoring report due by February 28 of each year. The maps shall be submitted according to the reporting schedule listed in C112.C. The permittee may request to submit groundwater elevation maps on an annual basis when the post-closure period commences.

   a. The permittee shall submit with the next application for renewal of DP-1341 a map(s) showing the extent of the OPSDA and AOPHC based on the Tyrone Mine configuration at closure..

4. The permittee shall monitor groundwater associated with reclaimed mine units and shall submit an annual report that evaluates groundwater quality surrounding reclaimed mine units at Tyrone Mine based on data collected pursuant to this Discharge Permit. The report shall include, at a minimum, information required by Subsection C of 20.6.7.29

NMAC, and applicable equivalent information listed in Subparagraphs (5) and (6) of 20.6.7.29.H NMAC.

F. Surface Water

1. The permittee shall monitor surface water quality at all designated outfall locations presently monitored pursuant to operational discharge permits for the Tyrone Mine and pursuant to the SAP required in C110 and Subsection B of 20.6.7.35 NMAC.

G. Seepage Collection and Interceptor Systems, Impoundments, Tanks, Pipelines, Sumps and Other Containment Systems

1. Pursuant to Subsection D of 20.6.7.35 NMAC, the permittee shall report the inspection results and a description of any maintenance performed on all seepage collection and interception systems.

2. Following closure of the copper mine facility, the permittee shall collect and analyze samples from the seepage collection and groundwater interceptor systems, impoundments, tanks, sumps, and other containment systems pursuant to the SAP required in C110. Samples shall be analyzed for the water parameters listed in Table 1. Analytical results shall be submitted in the semi-annual monitoring reports in the format specified by Subsection C of 20.6.7.29 and Subsection D of 20.6.7.35 NMAC.

H. Seeps and Springs

1. The permittee shall conduct closure and post-closure monitoring of seeps and springs pursuant to the SAP required in C110, and applicable requirements of Subsection F of 20.6.7.28 and Section 20.6.7.35 NMAC. If additional seeps and springs are discovered, NMED shall be notified within 7 business days of discovery and they shall be sampled and analyzed for the water parameters listed in Table 1. Analytical results shall be submitted in the semi-annual monitoring reports in the format specified by Subsection C of 20.6.7.29 and Subsection D of 20.6.7.35 NMAC.

I. Reclamation Monitoring, Maintenance and Inspections

1. The permittee shall perform closure and post-closure monitoring and reporting of vegetation at reclaimed areas where vegetation is required by the Copper Mine Rule or approved discharge permit in accordance with Paragraph (1) of 20.6.7.35.C NMAC and applicable schedules and monitoring requirements approved by MMD, to ensure that vegetative cover is protective of water quality.

2. Pursuant to Paragraph (2) of 20.6.7.35.C NMAC, the permittee shall visually inspect closed discharge permit areas where a cover was installed for signs of excessive erosion, subsidence features, slope instability, ponding, development of fissures, or any other feature that may compromise the functional integrity of the cover system or drainage channels. The permittee shall report or take corrective action regarding signs of excessive erosion, subsidence features, slope instability, ponding, development of fissures, or any other feature that may compromise the functional integrity of the cover system or drainage channels. Inspection frequency, including after storm events, shall be in accordance with Paragraph (2) of 20.6.7.35.C NMAC. Monitoring and inspection results shall be reported as required by Subsection D of 20.6.7.35 NMAC.

3. Pursuant to Paragraph (2) of 20.6.7.35.C and Section 20.6.7.30 NMAC, the permittee shall report or take corrective action for excessive erosion, subsidence features, slope instability, ponding, development of fissures, or any other feature that may compromise the functional integrity of the cover system or drainage channels.

4. Cover maintenance shall be performed, as necessary, in accordance with Paragraph (4) of 20.6.7.35.C NMAC. Recommendations for maintenance work shall be provided in the semiannual monitoring reports as required in Subsection D of 20.6.7.35 NMAC.

5. Pursuant to Paragraph (5) of 20.6.7.35.C NMAC, the permittee shall routinely inspect and maintain all structures, units, and equipment for failure of which may impact water quality. Water that is collected that exceeds the groundwater standards in Section 20.6.2.3103 NMAC shall be stored, conveyed, treated and discharged in a manner that is consistent with the Closure Water Management and Water Treatment Plan described in Appendix D of the Updated CCP and in C108.A of this Discharge Permit and any other applicable regulatory requirements.

6. Pursuant to Paragraph (3) of 20.6.7.35.C NMAC, the permittee shall inspect and maintain the fencing or other management systems required by this Discharge Permit to prevent access by wildlife and unauthorized members of the public to an open pit, reservoir, impoundment, or any sump that contains water that may present a hazard to public health or wildlife.

J. Flow Measurement Devices

1. Pursuant to Subparagraph (a) of 20.6.7.18.E.(2) NMAC, the permittee shall submit a report of repaired or replaced flow measurement devices in the semi-annual monitoring reports that include a description of any flow measurement device malfunctions with a statement verifying the repair and description of calibration of the flow measurement device pursuant to Paragraph (3) of 20.6.7.18.E NMAC.

K. Discharge Volumes

1. In addition to discharge volume reporting required by Subsections B, E, and F of 20.6.7.29 NMAC, the permittee shall measure the cumulative flow rate of intercepted and extracted water and report discharge volumes pursuant to Subsections E and F of 20.6.7.29 NMAC for seepage collection and groundwater interceptor systems.

L. Meteorological Data

1. Meteorological data shall be measured as stipulated in the TMD. The data shall be submitted to NMED in the monitoring report due on February 28 of each year as required in Condition C112.C. Pursuant to Subsection G of 20.6.7.29 NMAC, tabulated data shall be submitted to NMED in the monitoring report due by February 28 of each year.

C113 Contingency Plan

A. The permittee shall comply with all applicable contingency requirements and submit to NMED all applicable information or documentation specified in Subsections A through J of 20.6.7.30 NMAC. NMED may require additional investigation and implementation of corrective actions in accordance with 20.6.7.30 NMAC in the event groundwater monitoring indicates previously undetected exceedances of applicable standards or if the extent or magnitude of existing groundwater contamination is significantly increasing. This may include additional seepage or groundwater interceptor systems, other source control measures as appropriate, or additional groundwater abatement as necessary.

B. Pursuant to Subsection G of 20.6.7.30 NMAC, discharges of process water or impacted stormwater that exceeds the standards of Section 20.6.2.3103 NMAC to unauthorized areas must be reported under Section 20.6.2.1203 NMAC.

C. Pursuant to Subsection I of 20.6.7.30 NMAC, the permittee shall notify NMED of any significant erosion or conditions that may compromise conveyance structures required or constructed in accordance with DP-1341, including any new stormwater structures.

D. Pursuant to Subsection E of 20.6.7.35 NMAC, the contingency requirements of Section 20.6.7.30 NMAC apply to any deficiencies discovered during post-closure monitoring and inspections, including, but not limited to, the requirements for possible corrective action plans, abatement plans, monitoring well replacement, reporting and correction of unauthorized discharges, and significant erosion of, or ponding of water, on a cover system.

E. The permittee shall notify NMED of significant failures to the water management and water treatment system or any condition that may cause a failure of the water treatment system.

The permittee shall follow the corrective action requirements pursuant to Subsection J of 20.6.7.30 NMAC.

F. If NMED or the permittee identifies any other failures of the discharge plan or system not specifically noted in this permit, NMED may require the permittee to develop and submit contingency plans and schedules for NMED approval to address such failures. [20.6.2.3107.A.10 NMAC]

C114 Abatement

A. The permittee submitted a Stage 2 Abatement Plan to NMED which was conditionally approved in June 2015. All abatement plans and activities shall be performed in accordance with Sections 20.6.2.4000 through 4115 NMAC and Paragraphs (3) and (4) of 20.6.7.30.A NMAC.

B. The permittee shall continue to pump all seepage collection and groundwater interceptor and abatement systems operational at the time of closure, as needed to protect groundwater and surface water in accordance with Subsection H of 20.6.7.33 NMAC. These systems shall be operated until monitoring indicates that groundwater standards have been achieved and maintained in accordance with 20.6.2.4103.D NMAC.

C. NMED will require abatement of any material containing water contaminates that are potential source areas for groundwater and surface water contamination in accordance with 20.6.2.1203, 20.6.2.3109.E.1, and 20.6.2.4103 NMAC in and around all mine units and structures approved by MMD to be left for an industrial PMLU, or structures necessary for post-closure treatment and disposal of groundwater and/or surface water.

D. Pursuant to 20.6.7.35 NMAC, for units of a copper mine facility subject to an abatement plan, monitoring, inspection, reporting, and operation of abatement systems shall be conducted in accordance with the approved abatement plan in addition to applicable DP-1341 post-closure monitoring and reporting requirements.

C115 Financial Assurance

A. The permittee shall maintain the existing and any revised joint financial assurance with NMED and the Mining and Minerals Division of the New Mexico Energy, Minerals and Natural Resources Department to cover costs associated with closure and post-closure activities approved under this Discharge Permit. [20.6.2.3107 NMAC]

Part D GENERAL CONDITIONS

NMED has reviewed the permit application for the proposed permitting action and has determined that the provisions of the Copper Mine Rule and applicable groundwater quality standards will be met in accordance with this Discharge Permit. General conditions pursuant to 20.6.2 NMAC and 20.6.7 NMAC are listed below.

D100 Enforcement

A. Any violation of the requirements and conditions of this Discharge Permit, including any failure to allow NMED staff to enter and inspect records or facilities, or any refusal or failure to provide NMED with records or information, may subject the permittee to a civil enforcement action pursuant to the NMSA 1978, Section 74-6-10(A) and (B). Such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, modifying or terminating the discharge permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to the NMSA 1978, Section 74-6-10(C) and 74-6-10.1, civil penalties of up to $15,000 per day of noncompliance may be assessed for each violation of the NMSA 1978, Section 74-6-5, the WQCC Regulations, or this Discharge Permit, and civil penalties of up to $10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation, standard, or order adopted pursuant to such other provision. In any action to enforce this Discharge Permit, the permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit. The permittee does not waive any argument as to the weight such evidence should be given. [74-6-10 WQA, 74-6-10.1 WQA]

B. Pursuant to the NMSA 1978, Section 74-6-10.2(A-F), criminal penalties may be assessed for any person who knowingly violates or knowingly causes or allows another person to:

1. Make any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or required to be maintained under the WQA;

2. Falsify, tamper with or render inaccurate any monitoring device, method or record required to be maintained under the WQA; or

3. Fail to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation, is subject to felony charges and shall be sentenced in accordance with the provisions of Section 31-18-15 NMSA 1978.

D101 General Inspection and Entry Requirements

A. Nothing in this Discharge Permit shall be construed as limiting in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other applicable law or regulation. [20.6.2.3107 NMAC, 74-6-9(B) & (E) WQA]

B. The permittee shall allow the Secretary or an authorized representative, upon the presentation of credentials, to [20.6.2.3107.D NMAC, 74-6-9(B) & (E) WQA]:

1. Enter at regular business hours or at other reasonable times upon the permittee's premises or other location where records must be kept under the conditions of this Discharge Permit, or under any federal or WQCC regulation.

2. Inspect and copy, during regular business hours or at other reasonable times, any records required to be kept under the conditions of this Discharge Permit, or under any federal or WQCC regulation.

3. Inspect, and copy, during regular business hours or at other reasonable times, any facility, equipment (including monitoring and control equipment or treatment works), practices or operations regulated or required under this Discharge Permit, or under any federal or WQCC regulation.

4. Sample or monitor, at reasonable times for the purpose of assuring compliance with this Discharge Permit or as otherwise authorized by the WQA, any effluent, water contaminant, or receiving water at any location before or after discharge.

D102 General Operational Requirements

A. Mine units shall be designed in accordance with the applicable requirements of Section 20.6.7.17 NMAC.

B. Mine units shall be operated in accordance with the applicable requirements of Section 20.6.7.18 NMAC.

1. Pursuant to Subsection A of 20.6.7.18 NMAC, to the extent practicable, mine units shall be designed and operated in a manner that contemplates the closure plan including identifying and segregating suitable material to construct covers and consideration of closure grading and drainage plans in the design and construction of operational mine units.

C. The permittee shall meet all applicable setback requirements pursuant to Section 20.6.7.19 NMAC.

D103 General Record Keeping and Reporting Requirements

A. The permittee shall retain written records at the copper mine facility written records as required pursuant to Section 20.6.7.37 NMAC.

B. The permittee shall furnish to NMED, within a reasonable time, any documents or other information which it may request to determine whether cause exists for modifying, terminating and/or renewing this Discharge Permit or to determine compliance with this Discharge Permit. The permittee shall also furnish to NMED, upon request, copies of documents required to be kept by this Discharge Permit. [20.6.2.3107.D NMAC, 74-6-9(B) & (E) WQA]

D104 General Sampling and Analytical Methods

A. Unless otherwise approved in writing by NMED, the permittee shall conduct sampling and analysis in accordance with the most recent edition of the following documents [Subsection B of 20.6.2.3107 NMAC]:

1. American Public Health Association, Standard Methods for the Examination of Water and Wastewater (18th, 19th or current)

2. U.S. Environmental Protection Agency, Methods for Chemical Analysis of Water and Waste

3. U.S. Geological Survey, Techniques for Water Resources Investigations of the U.S. Geological Survey

4. American Society for Testing and Materials, Annual Book of ASTM Standards, Part 31. Water

5. U.S. Geological Survey, et al., National Handbook of Recommended Methods for Water Data Acquisition

6. Federal Register, latest methods published for monitoring pursuant to Resource Conservation and Recovery Act regulations

7. Methods of Soil Analysis: Part 1. Physical and Mineralogical Methods; Part 2. Microbiological and Biochemical Properties; Part 3. Chemical Methods, American Society of Agronomy

D105 Monitoring Well Abandonment

A. The permittee shall submit a written request for NMED approval to amend or modify this Discharge Permit at least 30 days prior to the anticipated destruction or removal of any

monitoring wells required under this Discharge Permit. Monitoring well plugging and abandonment shall be completed in accordance with the Groundwater Discharge Permit Monitoring Well Construction and Abandonment Conditions, Revision 1.1, March 2011, and according to regulations issued by the Office of the State Engineer in 19.27.7 NMAC, unless an alternate method is approved by NMED. [20.6.2.3107 NMAC]

B. The request required in D105.A shall include the following information:

1. A scaled map showing the location of the monitoring well(s) and the mine units it is intended to monitor;

2. The purpose for plugging and abandoning the monitoring well(s);

3. Details, if available, on the monitoring well(s) including depth-to-water elevation, top-of-casing elevation, construction and lithologic logs;

4. Recent groundwater analytical results from a minimum of the most recent eight sampling events from the monitoring well(s);

5. Proposed replacement well(s), if applicable, and;

6. Same details, as applicable, as provided in D105.B.1, D105.B.3, and D105.B.4 above are required for the proposed replacement monitoring well(s). New replacement wells require monitoring well completion reports pursuant to Subsection K of 20.6.7.28 NMAC.

D106 Reporting Requirements for Unauthorized Discharges

A. In the event of a spill or release that is not authorized under this Discharge Permit, the permittee shall initiate the notifications and corrective actions as required in 20.6.2.1203 NMAC. The permittee shall take immediate corrective action to contain and remove or mitigate any damage caused by the discharge. Within 24 hours after discovery of the discharge, the permittee shall verbally notify NMED and provide the information required by Paragraph (1) of Subsection A of 20.6.2.1203 NMAC, and to determine applicable monitoring and reporting requirements pursuant to Paragraphs (2) and (3) of Subsection B of 20.6.7.29 NMAC. Within 7 days of discovering of a discharge reportable under 20.6.2.1203 NMAC, the permittee shall submit a written report to NMED verifying the oral notification and providing any additional information or changes. The permittee shall submit a corrective action report within 15 days after discovery of the discharge. [20.6.2.1203 NMAC]

B. As part of the 24-hour spill notification requirements, the permittee shall submit a figure to NMED that clearly displays the location (or locations) of the spill and identifies nearby mine units and/or location information in latitude/longitude coordinates in decimal degrees

(XX.XXXXXX and –XXX.XXXXXX, respectively), using a specified datum of WGS 84. Submittal of location information in Universal Transverse Mercator (UTM) format is also acceptable.

D107 Modifications and Amendments

A. In the event the permittee proposes a change to the facility or the facility's discharge that would result in a change in the volume discharged; the location of the discharge; or in the amount or character of water contaminants received, treated or discharged by the facility, the permittee shall notify and obtain approval from NMED prior to implementing such changes. Such changes may require modification or amendment to this Discharge Permit, including payment of applicable fees as specified in Section 20.6.7.9 NMAC. [20.6.2.3107.C NMAC, 20.6.2.3109.E, 20.6.2.3109.E NMAC, 20.6.7.7.B(19), 20.6.7.14 NMAC]

B. As determined by NMED, for any proposed change that would meet the definition of a discharge permit modification as specified in Paragraph P of 20.6.2.7 NMAC the permittee shall submit for NMED approval an application for modification of this Discharge Permit pursuant to Sections 20.6.7.10 NMAC and 20.6.7.11 NMAC. Plans and specifications shall be included in the requests as applicable, pursuant to Section 20.6.7.17 NMAC.

C. As determined by NMED, for any proposed change that meets the definition of a discharge permit amendment as specified in Paragraph 19 of 20.6.7.7.B NMAC, the permittee shall submit a request to NMED for amendment of this Discharge Permit pursuant to Section 20.6.7.14 NMAC. Plans and specifications shall be included in the requests as applicable, pursuant to Section 20.6.7.17 NMAC.

D. Pursuant to Section 20.6.2.3109 NMAC, NMED reserves the right to require a discharge permit modification in the event NMED determines that the requirements of 20.6.2 NMAC are being or may be violated, or the standards of Section 20.6.2.3103 NMAC are being or may be violated. This may include a determination that structural controls and/or management practices approved under this Discharge Permit are not protective of groundwater quality, and that more stringent requirements are needed to protect groundwater quality. The permittee may be required to abate water pollution.

D108 Compliance with Other Laws

A. Nothing in this Discharge Permit shall be construed in any way as relieving the permittee of the obligations to comply with all applicable federal, state, and local laws, regulations, permits or orders. [20.6.2 NMAC, 20.6.7.8(D) NMAC]

Table 1 – DP-1341 Monitoring and Reporting Summary

Monitoring Report Schedule of Submittal (Subsection A of 20.6.7.29 NMAC)	
1	January 1 through June 30 (Q1 and Q2 sampling quarters) – Semi-annual report due by August 31 of each year
2	July 1 through December 31 (Q3 and Q4 sampling quarters) – Semi-annual report due by February 28 of each year
3	Annual reports due by February 28 of each year
4	Sampling Quarter: Q1 = Jan-Mar; Q2 = Apr-Jun; Q3 = Jul-Sep; Q4 = Oct-Dec

Reporting Summary

Annual Reporting Frequency	**Number of Sites**	**Description**
2	Not Applicable	Monitoring reports – All applicable requirements of Subsections A through H of 20.6.7.29 NMAC, and Section 20.6.7.35 NMAC.
2	2	Mine facility groundwater elevation contour map (NMA and SMA)
1	1	OPSDA and AOPHC Map(s) for the NMA
1	Not Applicabel	Annual Report of Reclaimed Areas required by Condition C112.E.4(b)
2	Not Applicable	Vegetation Monitoring required by Condition C112.J
2	Not Applicable	Cover System Monitoring required by Condition C112.J
2	Not Applicable	Additional discharge volume reporting listed in C112.L

Water Parameters and Measurements

Sampling Analytical Suites (dissolved concentrations in mg/L, unless otherwise noted, see C112.B):

A = Field Parameters: Temperature (^{o}C), pH, specific conductance (µS/cm)
B = General Chemistry and Inorganic Parameters: alkalinity-bicarbonate (alk-HCO_3), alkalinity-carbonate (alk-CO_3), alkalinity-total (alk-Tot), calcium (Ca), chloride (Cl), cyanide (CN), fluoride (F), magnesium (Mg), potassium (K), sodium (Na), sulfate (SO_4), and total dissolved solids (TDS)
C = Metal Parameters: aluminum (Al), arsenic (As), barium (Ba), beryllium (Be), boron (B), cadmiun (Cd), chromiun (Cr), cobalt (Co), copper (Cu), iron (Fe), lead (Pb), manganese (Mn), molybdenum (Mo), nickel (Ni), selenium (Se), silver (Ag), total mercury (Hg), uranium (U), and zinc (Zn).
D = Nutrients: Total Kjeldahl nitrogen (TKN), and Nitrate-Nitrogen (NO_3-N)
E = Radioactivity: Combined Radium-226 and Radium-228 (pCi/L)

Measurements
W = Depth-to-water measurement to the nearest 0.01 foot

Figure 1 – Site Map

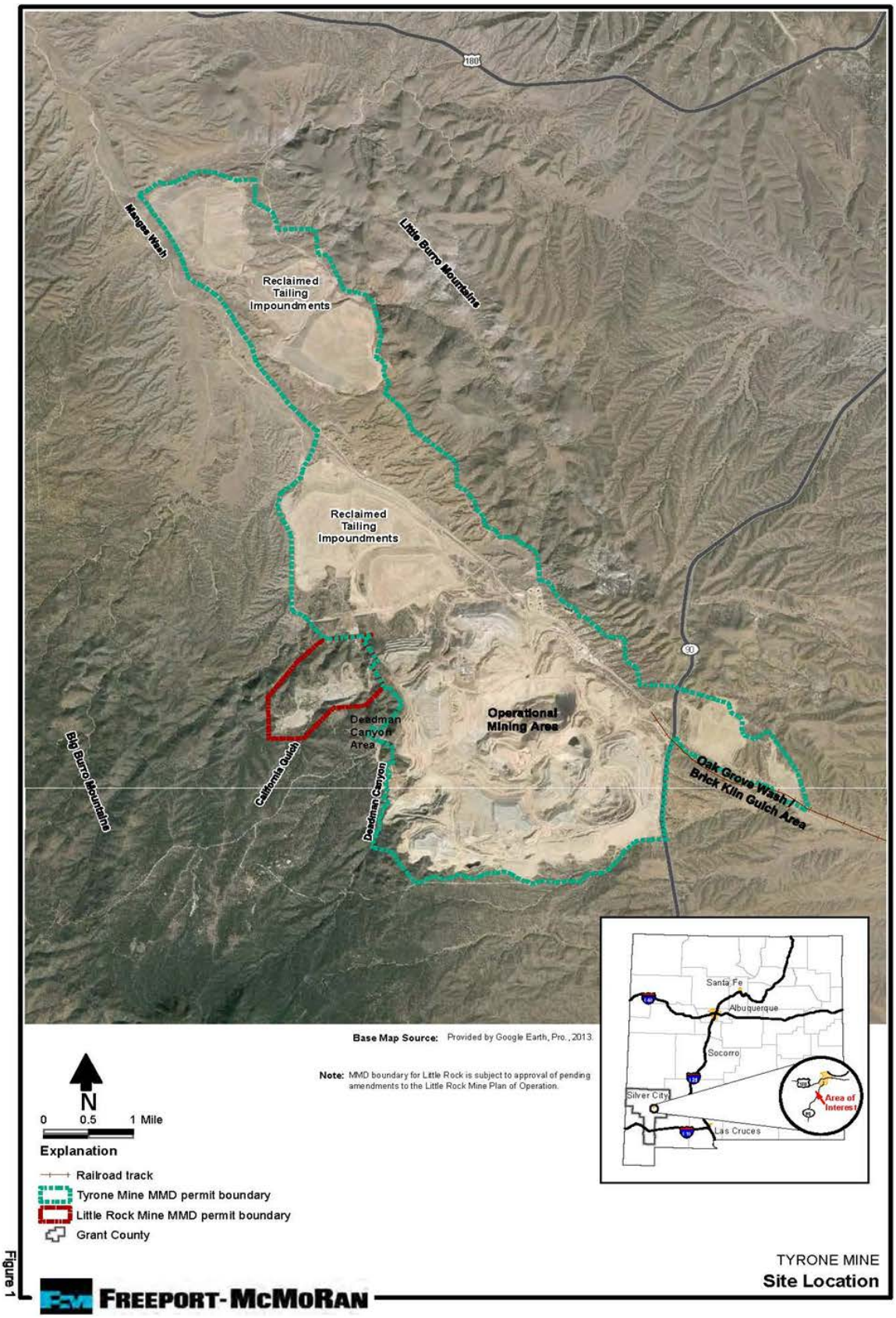

Figure 2 – Operational Mining Area

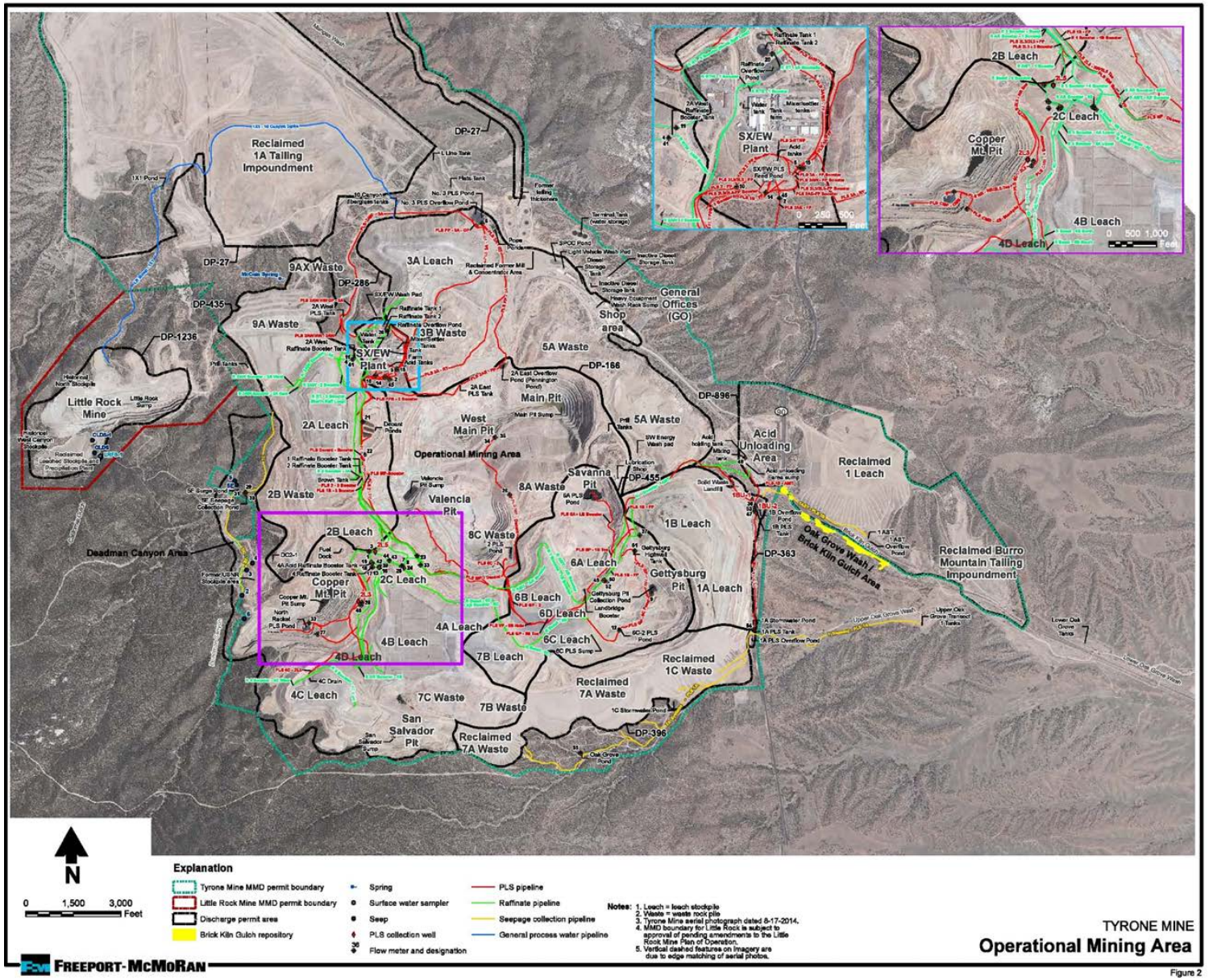

Figure 3 – Reclaimed Tailing Repositories (shown in yellow)